

Claims

- [c1] A method for bending a preformed thermoplastic polymer extrusion comprising at least one cavity to make a curved polymer extrusion, the method comprising:
- filling at least one said cavity with polymer foam formed within said cavity;
 - curing said polymer foam within said at least one cavity;
 - heating said extrusion to a first temperature;
 - bending said heated extrusion on a curved mandrill;
 - cooling said extrusion to a second temperature on said mandrill to make a curved polymer extrusion; and
 - removing said cooled curved polymer extrusion from said mandrill.
- [c2] The method of claim 1 wherein said polymer foam is polyisocyanate-based.
- [c3] The method of claim 2 wherein said polymer foam is polyurethane foam.
- [c4] The method of claim 3 wherein said polyurethane foam is rigid closed-cell foam, semi-rigid closed-cell/open-cell foam and flexible open-cell foam.
- [c5] The method of claim 1 wherein said first temperature is the heat deflection temperature of the preformed polymer extrusion.
- [c6] The method of claim 1 wherein said second temperature is at least about 10 degrees Celsius less than the heat deflection temperature of the preformed polymer extrusion.
- [c7] The method of claim 1 wherein said polymer foam has a density of about 16 kg per cubic meter to about 320 kg per cubic meter.
- [c8] The method of claim 1 wherein said extrusion is heated to said first temperature in a glycol bath.
- [c9] The method of claim 1 wherein said extrusion is heated to said first temperature by infrared radiation.
- [c10] The method of claim 1 wherein said extrusion is heated to said first temperature by heated air.

- [c11] The method of claim 1 wherein said preformed extrusion comprises a vinyl polymer.
- [c12] The method of claim 1 wherein each said cavity is filled with foam by injection from a mixing head of a plurality of ingredients comprising polyisocyanate, at least one active hydrogen-containing compound, and a blowing agent.
- [c13] The method of claim 1 wherein each said cavity is filled with foam by hand pouring into each said cavity a plurality of ingredients comprising polyisocyanate, at least one active hydrogen-containing compound, and a blowing agent.
- [c14] A method for bending a preformed vinyl extrusion comprising at least one cavity to make a curved vinyl extrusion, the method comprising:
filling at least one said cavity with polyurethane foam formed within said cavity;
curing said polyurethane foam within said at least one cavity;
heating said extrusion to about 70 degrees Celsius;
bending said heated extrusion on a curved mandrill;
cooling said extrusion to a temperature less than about 60 degrees Celsius on said mandrill to make a curved polymer extrusion; and
removing said cooled curved polymer extrusion from said mandrill.
- [c15] The method of claim 14 wherein said extrusion is heated by immersion in a glycol bath maintained at about 70 degrees Celsius.
- [c16] The method of claim 14 wherein said extrusion is heated by infrared radiation.
- [c17] The method of claim 16 wherein said cured polyurethane foam has a density of about 320 kg per cubic meter.
- [c18] A window frame comprising a curved polymer extrusion made by the method of claim 14.
- [c19] A window comprising the window frame of claim 18.
- [c20] The window of claim 19 wherein said polyurethane foam is rigid closed-cell

foam, semi-rigid closed-cell/open-cell foam and flexible open-cell foam.

APP ID=10063830